



Dubai Electricity & Water Authority

Distribution Services Department



Major Projects Guideline

April, 2007



Planning of Source of Supply

➦ The following are required

1. Location and layout of the project:
 - Location and project layout shall be shown on Dubai Map.
2. Nature of the project:
 - Residential, Industrial, Commercial, etc.
3. Total connected load of the project & maximum demands:
 - Construction, Nominal (connected) and peak loads, District Cooling load and their expected timing.
4. Load Characteristics (quality of voltage, harmonics, flickering, dents, etc.)
 - “Loads” at the consumer end should follow the European Standard EN 50160.
 - Installation of special equipment & devices by the consumer at his own cost might be required.
5. Power Factor not less than 0.95
 - Might require Capacitor Bank installation by the new customer at his end and cost.
6. Supply Voltage
 - 132/11kV substation is generally required for new consumers requesting from around 25MVA. Huge loads might require 400/132kV source also.



7. Time Frame required for DEWA to build

400/132 kV substation

- 40 months

132/11 kV substation

- 30 months from finalization of load requirements, corridors & receiving the affection plan of the plot.

8. Substation plot size

400/132 kV substation

- 150 x 200 m.

132/11 kV substation

- 80 x 60 m (single story), 60 x 50 m (double story).

11/ 0.4 kV substation

- Refer to Distribution Substation Guideline.

9. Location of plot

400/132 kV Substation location

- The 400/132 kV substation plot is 150 m by 200 m having access from two major roads.
- Enough space/corridors for 132 kV cables in & out.

132/11 kV Substation location

- The 132/11kV substation plot shall have access form two major roads or one major road & Sikka.
- Enough space/corridors for 132 kV cables in & out.
- Location of 132/11 kV S/Ss should be provided at the load center.



- The 132/11 kV substation location should be 60 meters along main road.

11/0.4 kV Substation location

- Refer to Distribution Substation Guideline

10. Corridor

400 kV overhead line

- 80 m wide corridor (double circuits tower line).

132 kV overhead line

- 32 m wide corridor (double circuits tower line).

132 kV underground cable

- 5 m wide for 2 circuits (2.5 m for one circuit).

11 kV under ground cable

- Exclusive 11 kV corridor of 2.5 m width to be provided on both side of the road around the 132/11 kV substation.
- Cross section to be provided for each road section, dedicated 11kV corridor should be available on both side of road.
- Duct arrangement for each road to be provided.

11. General:

a) Site plan for 132/11 kV Substation

- Approved site plan /affection plan of the Sub Station is required from the competent authority. The party to confirm, whether the Building permit for the Sub Station building will be issued by Dubai Municipality or some other authority.



b) Commissioning time of 132/11 kV Sub Station

If the 132/11 kV Sub Station is required earlier than 30 months by any developer, the construction of the 132/11 kV Sub Station to be arranged by developer.

c) DEWA approved consultant to be appointed for Engineering and supervision of the 132/11 kV Substation. Necessary assistance will be provided by DEWA.

d) For 11 kV network design/ approval, following is required:

- Latest planning of the development hard & soft copy.
- Approved 11kv Substation location. (Refer to Distribution Substation Guideline for approved of 11 kV substation).
- Total connected load, Maximum demand and capacity for individual 11kV substation.
- Power requirement date.
- In case of number of 132/11 kV substations are more, project/loads should be allocated to respective 132/11 kV substation for effective network design (Phase wise). Also the 132/11 kV substation need to be planned for commissioning to match the power requirement date of projects.
- Regarding location and access to 11 kV S/S, refer Distribution S/S guideline.
- Regarding 11 kV corridors:
 - No 11 kV corridors will be accepted under carriageway.
 - Approved cross section of all the roads (indicate 11 kV corridor) to be submitted at the time of 11 kV network design request.



- Generally, in case of private switchgear, approval for single line should be obtained prior to purchase.

e) To arrange 11 kV equipment, please ensure to get 11 kV substation approved from DEWA at least 12 months ahead of power requirement date.